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EXAMINER	
SERRAO, RANODHI N	

ART UNIT	PAPER NUMBER
2141	

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/055,335	POSPESEL ET AL.	
	Examiner	Art Unit	
	Ranodhi Serrao	2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 July 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☒ Claim(s) *1,9 and 10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Arguments

1. Applicant's arguments with respect to claims 1-17 have been considered but are moot in view of the new ground(s) of rejection.

2. Applicant argued in substance the method, "coupling at least one slave agent with at least two master agents including a first master agent and a second master agent on a bus" in independent claims 1, 5, 8, 16, and 17. The new grounds teach this feature. (See below).

3. Applicant's arguments regarding the rejections of claims 11 and 13 under 35 U.S.C. 103(a) have been fully considered but are not persuasive. The motivations for combining Stallmo et al. and Sakai et al. are taught in Stallmo et al. And furthermore the examiner did not suggest combining the whole system of Stallmo et al. with Sakai et al. which would produce an inoperative device, but stated that it would have been obvious to one having ordinary skill in the art at the time of the invention to add the particular limitations into the system of Sakai et al. with the motivations provided.

Claim Objections

4. Claims 1, 9, and 10 are objected to because of the following informalities: As per claim 1, line 4 of the claim should read "master agent comprising". As per claim 9, in lines 12, 14, and 16, there are grammatical errors due to amendments. As per claim 10, in lines 9 and 13, there are grammatical errors due to amendments. Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-10, 12, and 14-17 rejected under 35 U.S.C. 103(a) as being unpatentable over Farmwald et al. (6,185,644) and Sakai et al. (6,005,869).

7. As per claims 1 and 17, Sakai et al. teaches a method wherein in response to the data from the bus being a token, then moving the data from the at least one of the master agent to the bus and discarding the token from the bus (see Sakai et al., col. 17, lines 30-38); and in response to the data not being a token from the bus, then moving the data from the input of the bus to the output of the bus (see Sakai et al., col. 13, lines 19-36); wherein in response to the data not being from the at least one of the master agents and the data is from the bus, then moving the data from the input of the bus to the output of the bus (see Sakai et al., col. 13, line 47-col. 14, line 6). But fails to teach a method for simultaneous communication over a bus, the method on a first master agent on the bus having an input and an output to the bus, the method on the first master comprising: coupling at least one slave agent with at least two master agents including a first master agent and a second master agent on a bus: determining if there is data from at least one of the master agents, and if there is data from the at least one of the master agents then performing: testing if the data from the bus is a token. However, Farmwald et al. teaches a method for simultaneous communication over a bus (see

Farmwald et al., col. 3, lines 36-40), the method on a first master agent on the bus having an input and an output to the bus (see Farmwald et al., col. 6, lines 11-25), the method on the first master comprising: coupling at least one slave agent with at least two master agents including a first master agent and a second master agent on a bus (see Farmwald et al., col. 12, lines 24-57); determining if there is data from at least one of the master agents, and if there is data from the at least one of the master agents (see Farmwald et al., col. 13, lines 31-53) then performing: testing if the data from the bus is a token (see Farmwald et al., col. 14, line 65-col. 15, line 7). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Sakai et al. to a method for simultaneous communication over a bus, the method on a first master agent on the bus having an input and an output to the bus, the method on the first master comprising: coupling at least one slave agent with at least two master agents including a first master agent and a second master agent on a bus: determining if there is data from at least one of the master agents, and if there is data from the at least one of the master agents then performing: testing if the data from the bus is a token in order to increase the bandwidth of DRAM access (see Farmwald et al., col. 4, lines 51-54).

8. As per claims 2-4, the motivation to combine Sakai et al. and Farmwald et al. of claim 1 under 35 USC 103(a) (paragraph 5 above) applies fully.

9. As per claim 2, Sakai et al. and Farmwald et al. teach the mentioned limitations of claim 1 above but Farmwald et al. fails to teach a method further comprising: determining at least one of if there is data from the bus, and if there is data from the at least one of the master agents. However, Sakai et al. teaches a method further

comprising: determining at least one of if there is data from the bus, and if there is data from the at least one of the master agents (see Sakai et al., col. 17, lines 51-64).

10. As per claim 3, Sakai et al. and Farmwald et al. teach the mentioned limitations of claim 1 above but Farmwald et al. fails to teach a method further comprising: determining at least one of if there is no data on the output and if an advance line is asserted and in response to the at least one of no data on the output and an advance line is asserted then determining at least one of if there is data from the bus, and if there is data from the at least one of the master agents. However, Sakai et al. teaches a method further comprising: determining at least one of if there is no data on the output and if an advance line is asserted and in response to the at least one of no data on the output and an advance line is asserted then determining at least one of if there is data from the bus, and if there is data from the at least one of the master agents (see Sakai et al., col. 13, line 47-col. 14, line 6: wherein dummy ID information function as an advance line).

11. As per claim 4, Sakai et al. and Farmwald et al. teach the mentioned limitations of claim 1 above but Farmwald et al. fails to teach a method further comprising: determining if the at least one of the master agents is coupled to an access macro and in response to the at least one of the master agents is coupled to an access macro, placing tokens on the bus, where the maximum number of tokens on the bus is set equal to a total number of master agents plus the total number of slave agents less one. However, Sakai et al. teaches a method further comprising: determining if the at least one of the master agents is coupled to an access macro and in response to the at least

one of the master agents is coupled to an access macro, placing tokens on the bus, where the maximum number of tokens on the bus is set equal to a total number of master agents plus the total number of slave agents less one (see Sakai et al., col. 20, lines 35-39 and col. 26, lines 12-42: wherein token packet management table serves the function of an access macro).

12. As per claim 5, Sakai et al. teaches a method for simultaneous communication over a bus, the method on a slave agent having an input and an output to the bus, the method on the slave comprising: determining if there is data from the bus or from the at least one slave, in response to being data from the bus but not from the at least one slave, then moving the data from the bus to the output, and in response to being data from the at least slave but not the bus then moving the data from the at least one slave to the output (see Sakai et al., col. 13, line 47-col. 14, line 6); determining if there is data both from the bus and the at least one slave and in response to being data from both the bus and the at least one slave (see Sakai et al., col. 28, lines 14-32) then performing: if the bus has priority then moving the data from the bus to the output and setting the priority to the at least one slave; and if the bus does not have priority then moving the data from the at least one slave to the output and setting the priority to the bus (see Sakai et al., col. 28, lines 33-56). But fails to teach a method of coupling at least one slave agent with at least two master agent including a first master anent and a second master anent on a bus. However, Farmwald et al. teaches a method of coupling at least one slave agent with at least two master agent including a first master anent and a second master anent on a bus (see Farmwald et al., col. 12, lines 24-57). It would

have been obvious to one having ordinary skill in the art at the time of the invention to modify Sakai et al. to a method of coupling at least one slave agent with at least two master agent including a first master anent and a second master anent on a bus in order to increase the bandwidth of DRAM access (see Farmwald et al., col. 4, lines 51-54).

13. As per claims 6 and 7, the motivation to combine Sakai et al. and Farmwald et al. of claim 5 under 35 USC 103(a) (paragraph 10 above) applies fully.

14. As per claim 6, Sakai et al. and Farmwald et al. teach the mentioned limitations of claim 5 above but Farmwald et al. fails to teach a method further comprising: determining at least one of if there is data from the bus and if there is data from the at least one slave. However, Sakai et al. teaches a method further comprising: determining at least one of if there is data from the bus and if there is data from the at least one slave (see Sakai et al. col., 17, lines 51-64).

15. As per claim 7, Sakai et al. and Farmwald et al. teach the mentioned limitations of claim 5 above but Farmwald et al. fails to teach a method further comprising: determining at least one of if there is no data on the output or if an advance line is asserted and in response to the at least one of no data on the output and an advance line is asserted then determining at least one of if there is data from the bus a and if there is data from the at least one slave. However, Sakai et al. teaches a method further comprising: determining at least one of if there is no data on the output or if an advance line is asserted and in response to the at least one of no data on the output and an advance line is asserted then determining at least one of if there is data from the bus a

and if there is data from the at least one slave (see Sakai et al., col. 13, line 47-col. 14, line 6: wherein dummy ID information function as an advance line).

16. As per claims 8 and 16, Sakai et al. teaches a method of determining after being reset if at least one of the master agents is coupled to an access macro and in response to the at least one of the master agents is coupled to the access macro then placing n-1 tokens on the bus, where n is the total number of master agents and slave agents communicating on the bus (see Sakai et al., col. 26, lines 12-42). But fails to teach a method on a master agent having an input and an output to the bus, the method on the master agent comprising: coupling at least one slave agent with at least two master agents including a first master agent and a second master agent on a bus; receiving a reset command. However, Farmwald et al. teaches a method on a master agent having an input and an output to the bus, the method on the master agent comprising: coupling at least one slave agent with at least two master agents including a first master agent and a second master agent on a bus (see Farmwald et al., col. 12, lines 24-57); receiving a reset command (see Farmwald et al., col. 15, lines 8-25). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Sakai et al. to a method on a master agent having an input and an output to the bus, the method on the master agent comprising: coupling at least one slave agent with at least two master agents including a first master agent and a second master agent on a bus; receiving a reset command in order to increase the bandwidth of DRAM access (see Farmwald et al., col. 4, lines 51-54).

17. As per claim 9, Sakai et al. teaches a data communications network for simultaneous communications between two or more agents comprising: at least one agent designated as a slave agent coupled to a communications bus (see Sakai et al., col. 11, line 66-col. 12, line 15); in response to the data from the bus is a token, then moving the data from the master to the bus and discarding the token (see Sakai et al., col. 17, lines 30-38); and in response the data is not a token from the bus, then moving the data from the input of the bus to the output of the bus (see Sakai et al., col. 13, lines 19-36); in response to the data is not from the at least one of the master agents and the data is from the bus, then moving the data from the input of the bus to me output of the bus (see Sakai et al., col. 13, line 47-col. 14, line 6). But fails to teach a network comprising: at least two agents designated as a first master agent and a second master agent respectively, coupled to the communications bus; an interface to each of the master agents with an input from the bus and an output to the bus, the interface comprising a plurality of latches for testing if there is data. However, Farmwald et al. teaches a network comprising: at least two agents designated as a first master agent and a second master agent respectively, coupled to the communications bus (see Farmwald et al., col. 12, lines 24-57); an interface to each of the master agents with an input from the bus and an output to the bus (see Farmwald et al., col. 12, lines 40-57 and col. 6, lines 11-25), the interface comprising a plurality of latches for testing if there is data (see Farmwald et al., col. 9, lines 9-21); in response to there being data from at least one of the master agents then testing if the data from the bus is a token (see Farmwald et al., col. 14, line 65-col. 15, line 7).

18. As per claims 10, 12, and 14 the motivation to combine Sakai et al. and Farmwald et al. of claim 9 under 35 USC 103(a) (paragraph 15 above) applies fully.

19. As per claim 10, Sakai et al. and Farmwald et al. teach the mentioned limitations of claim 9 above but Farmwald et al. fails to teach a data communications network further comprising: an interface on each slave agent with an input to the bus and an output to the bus, the interface comprising a plurality of latches for testing if there is data from the bus or from the slave agent and if there is data from the bus but not from the slave then moving the data from the bus to the output and if there is data from the slave but not from the bus then moving the data from the slave to the output; wherein the plurality of latches tests if there is data both from the bus and data from the slave and in response to there is data from both the bus and from the slave then testing if the bus has priority and: in response to the bus having priority then moving the data from the bus to the output and setting the priority to the slave; and in response to the bus not having priority then moving the data from the slave to the output and setting the priority to the bus. However, Sakai et al. teaches a data communications network further comprising: an interface on each slave agent with an input to the bus and an output to the bus (see Sakai et al., col. 24, lines 13-29), the interface comprising a plurality of latches for testing if there is data from the bus or from the slave agent and if there is data from the bus but not from the slave then moving the data from the bus to the output and if there is data from the slave but not from the bus then moving the data from the slave to the output (see Sakai et al., col. 24, lines 13-29: wherein the bus switch portion serves the function of a latch); wherein the plurality of latches tests if there is data both

from the bus and data from the slave and in response to there is data from both the bus and from the slave then testing if the bus has priority (see Sakai et al., col. 4, lines –12) and: in response to the bus having priority then moving the data from the bus to the output and setting the priority to the slave; and in response to the bus not having priority then moving the data from the slave to the output and setting the priority to the bus (see Sakai et al., col. 28, lines 33-56).

20. As per claim 12, Sakai et al. and Farmwald et al. teach the mentioned limitations of claims 9 and 10 above but Farmwald et al. fails to teach a data communications network, wherein at least one of the communication agent is coupled to a first brand of computer and at least one of the communications agents is coupled to a second brand of computer so as to form a heterogeneous environment. However, Sakai et al. teaches a data communications network, wherein at least one of the communication agent is coupled to a first brand of computer and at least one of the communications agents is coupled to a second brand of computer so as to form a heterogeneous environment (see Sakai et al., col. 2, lines 11-26).

21. As per claim 14, Sakai et al. and Farmwald et al. teach the mentioned limitations of claim 9 above but Farmwald et al. fails to teach a data communications network, wherein the slave agent includes: an interface with an input from the bus and an output to the bus, the interface comprising a plurality of latches for testing if the data is for the slave agent and if in response to the data being for the slave agent then transferring the data to the slave. However, Sakai et al. teaches a data communications network, wherein the slave agent includes: an interface with an input from the bus and an output

to the bus, the interface comprising a plurality of latches for testing if the data is for the slave agent and if in response to the data being for the slave agent then transferring the data to the slave (see Sakai et al., col. 24, lines 13-29: wherein the bus switch portion serves the function of a latch).

22. As per claim 15, Sakai et al. and Farmwald et al. teach the mentioned limitations of claim 9 above but Sakai et al. fails to teach a data communications network, wherein the interface to each of the master agents further comprises a plurality of latches for testing if the data is for the at least one of the master agents and if the data is for the at least one of the master agents, then passing the data to the at least one of the master agents. However, Farmwald et al. teaches a data communications network, wherein the interface to each of the master agents further comprises a plurality of latches for testing if the data is for the at least one of the master agents and if the data is for the at least one of the master agents, then passing the data to the at least one of the master agents (see Farmwald et al., col. 15, lines 26-51). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Sakai et al. to a data communications network, wherein the interface to each of the master agents further comprises a plurality of latches for testing if the data is for the at least one of the master agents and if the data is for the at least one of the master agents, then passing the data to the at least one of the master agents in order to get device ID numbers to unique devices (see Farmwald et al., col. 15, lines 52-61).

23. Claims 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai et al. (6,005,869) and Farmwald et al. (6,185,644) as applied to claims 9 and 10 above, and further in view of Stallmo et al. (5,689,678).

24. As per claim 11, Sakai et al. and Farmwald et al. teach the mentioned limitations of claims 9 and 10 above but fail to teach a data communications network, wherein the data further includes control data and parity data. However, Stallmo et al. teaches a data communications network, wherein the data further includes control data and parity data (see Stallmo et al., col. 15, lines 42-53 and col. 16, lines 1-15). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Sakai et al. and Farmwald et al. to a data communications network, wherein the data further includes control data and parity data in order to allow for a significant increase in system performance by providing concurrent input/output operations by a number of data storage devices without changes to the host computer (see Stallmo et al., col. 5, lines 59-67).

25. As per claim 13, Sakai et al. and Farmwald et al. teach the mentioned limitations of claims 9 and 10 above but fail to teach a data communications network, wherein the bus is selected from a group of buses consisting of wire, wireless and infrared. However, Stallmo et al. teaches a data communications network, wherein the bus is selected from a group of buses consisting of wire, wireless and infrared (see Stallmo et al., col. 21, line 63-col. 22, line 15). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Sakai et al. and Farmwald et al. to a data communications network, wherein the bus is selected from a group of buses

consisting of wire, wireless and infrared in order to provide a means by which each MCU may communicate with each other MCU to facilitate the implementation of a memory array architecture, such as a RAID architecture (see Stallmo et al., col. 4, lines 55-64).

Conclusion

26. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

27. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ranodhi Serrao whose telephone number is (571)272-7967. The examiner can normally be reached on 8:00-4:30pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571)272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RUPAL DHARIA
SUPERVISORY PATENT EXAMINER